

The Enduring Value of NORAD

By VICTOR E. RENUART, JR.

[Canada and the United States] are good neighbors and true friends because we maintain our own rights with frankness, because we refuse to accept the twists of secret diplomacy, because we settle our disputes by consultation and because we discuss our common problems in the spirit of the common good.

—Franklin D. Roosevelt, August 1938

Gen Renuart speaks at NORAD
50th Jubilee, May 12, 2008

DOD (Cherie Cullen)



Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 2009		2. REPORT TYPE		3. DATES COVERED 00-00-2009 to 00-00-2009	
4. TITLE AND SUBTITLE The Enduring Value of NORAD				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) National Defense University, Institute for National Strategic Studies, 260 5th Avenue SW Fort Lesley J. McNair, Washington, DC, 20319				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 5	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

The armed forces of Canada and the United States are completing a historic commemoration. Just over 50 years ago, our two nations signed the Agreement for the North American Air Defense Command (NORAD), which established a binational command to provide air defense against the Soviet bomber threat. For five decades now, we have ensured the aerospace sovereignty of North America. Since September 11, 2001, NORAD (now the North American *Aerospace* Defense Command) has refocused its mission to include defense against surprise and internal threats. With this new threat in mind, in May 2006, Canada and the United States added maritime warning as a NORAD mission.

Recognizing the broader aspects of the 21st-century security environment, our two nations are now assessing opportunities for enhanced military cooperation among the commands charged with defending our home territory. Our leaders have repeatedly underscored the importance of international cooperation for homeland defense and security. In the spirit of a neighborhood watch, Canada and the United States have a great opportunity to create a set of new relationships that build on the strengths and benefit from the challenges of earlier times. By changing the lenses we have looked through for generations, we can develop processes and procedures to reduce the geographical, interdomain, inter-agency, and intermodal gaps that currently exist in our defenses.

There are a number of ways to address these new relationships. Whichever approach we take must acknowledge all members as equal partners. That approach must also respond to changing conditions and adapt to the possibility of new participants. In that light, this article offers a retrospective on NORAD, looks at the relevance of NORAD today, and suggests an outline of considerations for future enhanced military cooperation between Canada and the United States in the defense of our neighborhood. These considerations, now in parallel with a Chief of Defence Staff (CDS) and Chairman of the Joint Chiefs of Staff (CJCS)-directed study, are not presented as all-inclusive or exhaustive, but rather reflective of the potential that exists.

General Victor E. Renuart, Jr., USAF, is Commander of North American Aerospace Defense Command and U.S. Northern Command.

History of Cooperation

The modern story of defense cooperation between our two countries extends back to World War II, when the threat of German and Japanese incursion into Alaska and the Maritime Provinces brought the United States and Canada together. In August 1940, President Franklin Roosevelt and Prime Minister Mackenzie King issued the Ogdensburg Declaration, which voiced the concept of joint defense and sanctioned the establishment of the Canada-U.S. (CANUS) Permanent Joint Board on Defense. At the war's end, collective security for continental defense remained of vital interest to both nations, and in February 1947, Ottawa and Washington announced the principles of future military cooperation, including consultation on air defense issues.

The growth of Soviet long-range aviation in the late 1940s, and the test of a Soviet atomic bomb in 1949, brought Canada and the United States under direct threat of nuclear attack for the first time, encouraging even closer cooperation in continental defense.

In the early 1950s, the two nations agreed to construct a series of radar stations across North America. The first undertaking was the Pinetree Line in 1954. By 1957, a Mid-Canada Line or McGill Fence was completed about 300 miles north of the Pinetree Line. The third and most challenging joint air defense undertaking of the 1950s was the construction of the Distant Early Warning Line (DEW Line), a transcontinental line along the 70th parallel, about 200 miles north of the Arctic Circle.

in February 1947, Ottawa and Washington announced the principles of future military cooperation, including consultation on air defense issues

This three-tiered radar defense line now gave our population centers 2 to 3 hours warning of bomber attack, sufficient time to identify and intercept enemy aircraft. Should the enemy have attempted to circumvent the three lines and approach from either the Pacific or Atlantic Oceans, they would have encountered offshore barriers composed of airborne early warning aircraft, Navy picket ships, and offshore radar platforms called Texas Towers.

Since the operation of this network required daily coordination on tactical matters and the merging of plans to a greater extent than ever before, the logical next step

was to establish a formal structure for operational control. To that purpose, in 1951, the Royal Canadian Air Force (RCAF) placed a liaison group at Ent Air Force Base, Colorado, home of the U.S. Air Force Air Defense Command, to carry out planning. Soon it became obvious that the most effective air defense required common operating procedures, deployment according to a single plan, means for quick decision, and authoritative control of all weapons and actions.

In the spring of 1954, the RCAF Chief of the Air Staff, Air Marshal C. Roy Slemon, and the head of the Air Force Air Defense Command, General Benjamin Chidlaw, met to discuss the best means for providing defense for North America. On the basis of these talks, their staffs prepared a plan that called for a combined air defense organization under a single commander. In late 1954, General Earle E. Partridge, commander of the newly formed joint U.S. Command, Continental Air Defense Command (CONAD), directed another detailed study of North American defense issues. The results again pointed to the establishment of a combined air defense organization.

On August 1, 1957, the United States and Canada announced the establishment of an integrated command that would centralize operational control of all air defenses. On September 12, NORAD operations commenced at Ent Air Force Base, with General Partridge named as commander and Air Marshal Slemon as his deputy. Eight months later, on May 12, 1958, the two nations signed

the formal NORAD Agreement. NORAD now commanded both Canadian and U.S. air defense forces, which included Canadian Air Command, Air Force Air Defense Command, Army Air Defense Command, and Naval Forces CONAD/NORAD.

The next several years saw a dramatic growth in air defenses. By the early 1960s, a quarter of a million Canadian and U.S. personnel operated a multilayered and interlocking complex of sites, control centers, manned interceptors, and surface-to-air missiles.

During the 1960s and 1970s, the character of the threat changed as the Soviet Union focused on deploying intercontinental and

sea-launched ballistic missiles, while developing an antisatellite capability. In response, the command developed a space surveillance and missile warning system to provide worldwide space detection and tracking and to catalogue objects and activity in space. When these systems became operational during the early 1960s, they came under the control of the NORAD commander. Over the years, the evolving threat broadened the NORAD mission to include tactical warning and assessment of a possible air, missile, or space attack on North America. The 1975 NORAD Agreement acknowledged these extensions of the command's mission, and the 1981 agreement changed the command's name from the North American Air Defense Command to the North American Aerospace Defense Command.

Economic moves begun in 1963 caused the reduction of aircraft fighter-interceptor forces and closed portions of the land-based radar network; however, there were improvements that helped reduce the vulnerability to intercontinental ballistic missile attacks. Two hardened underground combat operations centers were set up: one inside Cheyenne Mountain near Colorado Springs, and an alternate center at North Bay, Ontario. These facilities became the nerve centers for integration and assessment of data gained from the broad network of early warning systems being established.

In May 1979, Congress directed the U.S. Air Force to prepare a blueprint for modernization of air defenses and cost-sharing discussions between Canada and the United States. The main features of the modernization programs

that followed were the replacement of the DEW Line radar system with an improved Arctic radar line called the North Warning System; the deployment of Over-the-Horizon Backscatter radar; the assignment of F-15s, F-16s, and CF-18s to NORAD; and the greater use of Airborne Warning and Control System aircraft.

The end of the Cold War brought major changes for the command. NORAD again reassessed its mission and refocused its resources to meet emerging threats. In 1989, Congress assigned the Department of Defense a role in the U.S. counterdrug effort. With Canadian ratification of the counterdrug mission, NORAD operations expanded to include tracking small-engine aircraft, then the primary means of smuggling drugs. The command also developed procedures to coordinate its counterdrug activities with Canadian and U.S. law enforcement agencies. These efforts demanded the utmost diplomacy as the command delved into delicate civil and diplomatic areas not traditionally included in day-to-day military affairs.

the command developed procedures to coordinate its counterdrug activities with Canadian and U.S. law enforcement agencies

On May 12, 1996, the renewal of the NORAD Agreement prepared the command for the next century with a commitment to maintain NORAD as the cornerstone of

CANUS post-Cold War national security. Five years later, in 2001, NORAD senior leaders were deep into assessment of how the command should meet future challenges when the playing field suddenly changed.

Responding to the tragedy of September 11, NORAD has increased its visibility and significance as a partner in the national security of Canada and the United States. One major example is the continuous fulfillment of responsibilities associated with Operation *Noble Eagle*, which include:

- monitoring and intercepting flights of interest within the continental U.S. and Canadian territory
- flying air defense missions for our nations' leaders, national special security events such as the Group of Eight summits, North American Leadership Summit, Republican and Democratic National Conventions, Olympics, and large sporting events such as the Super Bowl
- conducting city and critical infrastructure air patrols
- assuming responsibility for integrated air defense over the U.S. National Capital Region
- providing interior radar and radio coverage developed through enhanced inter-agency cooperation with NAV Canada, Transport Canada, Royal Canadian Mounted Police, Federal Aviation Administration, Transportation Security Agency, and Department of Homeland Security
- employing improved rules of engagement.

Looking back over the past 50 years, it is evident that NORAD has served as a credible deterrent to any aggression that might threaten North America, continually adapting to the changing strategic environment. Advances in technology have reduced the requirement for large numbers of personnel and air defense resources, but NORAD today remains the most formidable aerospace defense capability in the world.

Strategic Environment

Since the turn of the century, the overall threat to the North American continent from the aerospace, space, land, sea, and cyber domains has greatly increased, and the proliferation of weapons of mass disruption and their delivery systems to state and nonstate actors has emerged as a major security chal-



Canadian National Defence Minister, Gen Renuart, and Secretary Gates cut ribbon for NORAD's new command center

DOD (Cherie Cullen)

lenge. This evolution has introduced asymmetric threats that have the potential to affect the decisionmaking processes associated with the defense of North America. Additionally, the proliferation of cruise missile technology, unmanned aerial systems, and nonmilitary air activity associated with drug trafficking and other illegal activities is of continuing concern.

Domestically, the overall volume of daily air traffic flowing to, from, and within our airspace will continue to expand and dictate an even higher degree of coordination between our national airspace surveillance and control systems and military components. Additionally, cyber security and the wide range of threats to our continent coming from the seas and major waterways will pose significant challenges. Finally, our vast and open borders, including a more accessible Arctic, will require both a closer level of cooperation between land and maritime forces and facilitation of military-to-military defense support to civil authorities.

Back to the Future

In response to this dynamic environment, there are three commands immedi-

ately responsible for the defense of North America: NORAD, U.S. Northern Command (USNORTHCOM), and Canada Command (Canada COM). The CANUS Basic Defense Document requires the commanders to establish close relationships with each other and with supporting agencies, ensuring a timely and coordinated response to threats to Canada and the United States. With that in mind, the CDS and CJCS requested the commanders of NORAD, USNORTHCOM, and Canada COM to develop options for the way ahead in their relationship. Since that meeting in July 2006, the three commands have been working closely to study and improve their understanding of each other's roles, missions, and responsibilities with the aim of eliminating gaps and redundancies, while strengthening daily military cooperation in the defense of North America. As a previous deputy commander observed, the Tri-Command Study promises to be one of the most important things we do in the next 10 years.

While respecting national sovereignty, the study focuses on strengthening the Canadian and U.S. Armed Forces' ability to:

- act in a timely and coordinated fashion
- identify, deter, disrupt, and defeat threats to Canada and the United States in all domains, in concert with their inter-agency partners
- provide timely, effective, and efficient support to civil authorities as directed.

In examining future options for increasing military cooperation in defense of North America, a number of assumptions come into play:

- An attack on one country is an attack on the other and will have economic, defense, and security implications.
- The nations believe it advisable to expand military-to-military cooperation.
- Enhanced military cooperation will increase the layered defenses of all participants.
- Improving coordination and reducing seams along borders and among domains will improve the defense and security of all participating nations.
- Increasing decision time will provide decisionmakers a greater ability to respond to threats.
- Current policies do not prevent expansion of military cooperation.

the Tri-Command Study promises to be one of the most important things we do in the next 10 years



U.S. Air Force (Shawn Weismiller)

Canadian Air Force C-17 prepares to evacuate people from New Orleans as Hurricane Gustav approaches, August 2008

■ Differing international perceptions of the value and difficulty of cooperation with U.S. forces will influence the effectiveness of enhanced military cooperation.

■ A change to NORAD is a politically sensitive topic.

■ Canadian forces may provide a successful conduit for military cooperation with other nations.

■ The lines between security and defense have become blurred.

■ The concept of CANUS military cooperation is as relevant today as it was during the Cold War and offers a strong foundation for the defense of North America for the next 50 years.

■ There is an excellent opportunity to consider expansion of both binational and bilateral cooperation in the areas of multi-domain awareness, assistance to civil authority, and information operations.

Where This Is Leading

Even while the study progresses, the real-time demands of the global geopolitical structure require constant preparedness. One of the vital concepts of this defense is anticipating the unexpected. In NORAD, several key elements will contribute to our readiness.

Our gap-filler program will allow us to see air activity within our borders to a much greater degree—from border to border and down to the ground. In addition, command and control (C²) upgrades, advances in technology, and new organizational structures will greatly improve our defenses and extend our decision time against cruise missiles and other unmanned air-breathing vehicles.

In the maritime domain, NORAD will provide binational warning, benefiting from the maritime domain awareness capabilities of both nations. This cooperation among multiple maritime agencies will provide a great deal of synergy in the watch over approaches to North America. An additional strong point in this effort is the fact that we view maritime activity through a binational, rather than a national, lens.

In the political arena, the NORAD Agreement expresses a shared statement of the two nations' interdependencies and vulnerabilities. It acknowledges geographic, economic, cultural, defense, and security issues while giving an equal voice to both partners. The agreement underscores respect for sovereignty and continues to build public trust and confidence in NORAD. Fundamentally,

it provides a shared means for both nations to agree on military action in defense of Canada, Alaska, the continental United States, Puerto Rico, and the U.S. Virgin Islands.

Militarily, NORAD enjoys a number of advantages. In the area of C², each nation has an equal voice in decisions affecting NORAD missions. This unity of effort strengthens our protection from direct military attack and provides expanded surveillance and control over North American airspace and warning in the maritime domain. Through continuous improvement of our C² systems, we have tightened the seams around domains, borders, and agencies. Generally speaking, either nation can exercise C² of both nations' assets assigned to NORAD.

The way we do business also provides valuable training and operational experience, not only for NORAD missions, but also in United Nations, North Atlantic Treaty Organization, and other multinational operations. Furthermore, collocation of NORAD and USNORTHCOM staffs has gone far to facilitate trust, familiarity, and confidence by promoting U.S. understanding of Canadian issues and vice versa. This familiarity has done a great deal to shorten response time to crises.

As far as our bread and butter is concerned, aerospace warning and aerospace control continually provide space surveillance and missile warning to both governments. We detect, track, and report every missile launch in the world, assessing the threat to North America. Our defensive forces respond

collocation of NORAD and USNORTHCOM staffs has gone far to facilitate trust, familiarity, and confidence by promoting U.S. understanding of Canadian issues and vice versa

to all Russian long-range aviation approaching our borders and secure the investment in the North Warning System and coastal radars in Canada. In this regard, we continually improve the interoperable C² mentioned above and shorten response time.

Our new mission of maritime warning supports a formal nation-to-nation umbrella for sharing maritime information and provides authority to explore and identify what information both nations need to share among military and nonmilitary agencies

and departments. This mission highlights the requirement for a common user-defined operating picture and supports the ability to use established intelligence-sharing protocols existing in the aerospace domain, once again shortening the decision cycle.

It has been over 63 years since the end of World War II and the emergence of the Soviet threat. Throughout five of those decades, the North American Air Defense Command has met the threat, adapted to changing conditions, and provided a shield over North America. The command's flexibility and adaptability have been significant in its continuing defense of our nations. Today, the lines between security and defense have become blurred, and it is time to rethink the division of labor that can lead to stovepipes within governments and militaries. Eliminating seams or gaps among missions, domains, and operational functions is essential to success. As the first step toward that goal, Canada and the United States should concentrate on the best information-sharing practices among all departments and agencies.

To further enhance military cooperation, the command must continue to leverage lessons learned from its 50 years of successful operations. The concept of bilateral military cooperation has served us well, remains as relevant today as it was during the Cold War, and provides a strong foundation for the defense of North America for the next 50 years. As we investigate how our nations' armed forces can best work together, there is an excellent opportunity to consider expansion of both binational and bilateral cooperation to the areas of multidomain awareness, assistance to civil authority, and information operations. Processes and procedures that allow the Canadian and U.S. military to be more scalable, flexible, and responsive will also improve our effectiveness.

In light of recent events around the globe, we know we can never let our guard down. The citizens of our two nations expect and deserve to rest easy in a troubled world. Our solemn commitment at the end of the day is to continually strengthen the defense and security of Canada and the United States, such that our mutual societies continue to prosper in a North American community that is free and safe. **JFQ**